

Serial No.: 10/749,993
Examiner: Michael C. Lai

In the claims:

Please amend the claims as follows:

1(currently amended). In a network including a switching node having a plurality of ports, a method for dynamically associating one of the ports to a virtual local area network (VLAN) based on a VLAN membership of a device connected to the port, the device being a silent device that responds to traffic transmitted by another device but does not initiate traffic to the other device, the method comprising:

receiving at the switching node a command from a network administrator associating the device to the VLAN wherein the switching node has a mobile port containing a frame reception and transmission module and also has a source learning module coupled to a layer 2 table which is coupled to a forwarding module and a PDP module coupled to the source learning module and a PDP table;

transmitting to the plurality of ports in response to the command, a first message configured to generate a response by the device;

receiving at a particular port, a second message from the device responsive to the first message;

identifying the port receiving the second message; and

associating the identified port to the VLAN associated with the device.

2 (canceled)

3(previously amended). The method of claim 1, wherein the device is a printer.

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4(original). The method of claim 1 further comprising storing a list of addresses learned on the identified port.

5(original). The method of claim 4, wherein the second message includes an address associated with the device, the method further comprising including the address in the list of addresses learned on the identified port.

6(original). The method of claim 5, further comprising:

detecting a triggering event removing the address associated with the device from the list of addresses learned on the identified port;

determining whether the device associated with the address is a silent device configured to respond to traffic transmitted by another device but not configured to initiate traffic to other devices;

transmitting to the plurality of ports based on the determination, a third message configured generate a response by the device;

receiving at a second port, a fourth message from the device responsive to the third message;

identifying the second port receiving the fourth message; and

associating the second port to the VLAN associated with the device.

7(original). The method of claim 6, wherein the triggering event is a port down event.

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8(original). The method of claim 7, wherein the port down event is generated in response to the device being decoupled from the identified port.

9(original). The method of claim 6, wherein the triggering event is fulfillment of an ageing time for removing the address.

10(currently amended). A switching node comprising:

a port coupled to a device associated with a virtual local area network (VLAN), the device being a silent device that responds to traffic transmitted by another device but does not initiate traffic to other device;

means for receiving at the switching node a command from the a network administrator associating the device to the VLAN wherein the port of the switching node contains a frame reception and transmission module and the switching node also has a source learning module coupled to a layer 2 table which is coupled to a forwarding module and a PDP module coupled to the source learning module and a PDP table;

means for transmitting to the port in response to the command, a first message configured to generate a response by the device;

means for receiving at the port, a second message from the device responsive to the first message;

means for identifying the port receiving the second message; and

means for associating the identified port to the VLAN associated with the device.

11(canceled)

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12(previously amended). The switching node of claim 10, wherein the device is a printer.

13(original). The switching node of claim 10 further comprising means for storing a list of addresses learned on the identified port.

14(original). The switching node of claim 13, wherein the second message includes an address associated with the device, the switching node further comprising means for including the address in the list of addresses learned on the identified port.

15(original). The switching node of claim 14, further comprising:
means for detecting a triggering event removing the address associated with the device from the list of addresses learned on the identified port;

means for determining whether the device associated with the address is a silent device configured to respond to traffic transmitted by another device but not configured to initiate traffic to other devices;

means for transmitting to the plurality of ports based on the determination, a third message configured generate a response by the device;

means for receiving at a second port, a fourth message from the device responsive to the third message;

means for identifying the second port receiving the fourth message; and

means for associating the second port to the VLAN associated with the device.

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16(original). The switching node of claim 15, wherein the triggering event is a port down event.

17(original). The switching node of claim 16, wherein the port down event is generated in response to the device being decoupled from the identified port.

18(original). The switching node of claim 15, wherein the triggering event is fulfillment of an ageing time for removing the address.

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19(currently amended). A switching node comprising:

one or more ports receiving and transmitting data units containing a frame reception and transmission module;

a first table storing a list of addresses learned on the one or more ports;

a first module coupled to the first table; and

a second module coupled to the first module, characterized in that the first module detects a triggering event, removes an address from the list of addresses stored in the first table based on the triggering event, determines whether the address is associated with a silent device configured to respond to traffic transmitted by another device but not configured to initiate traffic to other devices, and forwards the address to the second module based on the determination, further characterized in that the second module transmits to the one or more ports a first message configured to generate a response by the silent device associated with the forwarded address, also characterized in that the first module receives at a particular port, a second message from the silent device responsive to the first message, identifies the particular port receiving the second message, and associates the identified port to a VLAN associated with the silent device.

a second table for storing the IP address and associated VLAN ID of the silent device; and

a third module coupled to the first table for forwarding data units.

20(original). The switching node of claim 19, wherein the triggering event is a port down event.

21(original). The switching node of claim 19, wherein the triggering event is fulfillment of an ageing time for removing the address.